What is claimed is:

1. An interleaver, comprising:

an input coupler comprising at least one input port and at least two branches; and

at least two multi-section optical couplers optically coupled to said input coupler.

2. The interleaver of claim 1, wherein said input coupler comprises a Y-branch coupler.

3. The interleaver of claim 1, wherein said multi-section optical couplers each comprise:

at least three substantially similar optical couplers, adjacent ones of said optical couplers interconnected via at least one set of waveguides, each of said sets of waveguides comprising a path-length difference between the waveguides therein.

4. The interleaver of claim 1, wherein the input optical coupler splits an input optical signal equally among the at least two branches, said at least two branches optically coupled to a first of said at least two multi-section optical couplers, and wherein at least two waveguides optically couple the first of said at least two multi-section optical couplers to a second of said at least two multi-section optical couplers.

5. The interleaver of claim 1, further comprising:

at least two waveguides optically coupling the input coupler to a first multi-section optical coupler; and

at least two waveguides optically coupling each of the at least two multi-section optical couplers;

wherein the path-length difference between each set of the at least two waveguides is substantially larger than a wavelength of a traversing optical

signal.

6. The interleaver of claim 5, wherein each set of the at least two waveguides comprises a means for causing a controllable phase shift.

7. The interleaver of claim 6, wherein said means for causing a phase shift comprises thermooptic trimmers.

8. The interleaver of claim 3, wherein said substantially similar optical couplers comprise evanescent couplers.

9. The interleaver of claim 1, wherein said interleaver is integrated onto a planar lightwave circuit.

10. An optical add/drop multiplexer (OADM) node, comprising:

a de-interleaver for separating an input optical signal into at least two optical signals comprising sets of optical channels and for directing said at least two optical signals along separate paths;

a wavelength-cross-connect optically coupled to said de-interleaver for receiving at least one of said at least two optical signals from said de-interleaver and for dropping selected ones of the optical channels in said received optical signal and passing through the remainder of said received optical signal; and

an interleaver optically coupled to said wavelength-cross-connect and said separate paths for combining said separated at least two optical signals;

wherein said interleaver and de-interleaver each comprise:

an input coupler comprising at least one input port and at least two branches; and

at least two multi-section optical couplers.

11. The OADM node of claim 10, further comprising:

an add coupler optically coupled to said wavelength-cross-connect and said interleaver for adding optical channels to said optical signal passed through said wavelength-cross-connect.

12. The OADM node of claim 11, wherein said add coupler comprises a star coupler.

13. The OADM node of claim 12, wherein said star coupler comprises a plurality of variable optical attenuators for blocking or passing through an optical signal.

14. The OADM node of claim 11, wherein said add coupler comprises a multi-mode interference coupler.

15. The OADM node of claim 10, wherein said de-interleaver, said wavelength-cross-connect and said interleaver are integrated onto a planar lightwave circuit.

16. The OADM node of claim 10, wherein said multi-section optical couplers each comprise:

at least three substantially similar optical couplers, adjacent ones of said optical couplers interconnected via at least one set of waveguides.

17. The OADM node of claim 16, wherein said substantially similar optical couplers comprise evanescent couplers.

18. The OADM node of claim 10, wherein said de-interleaver separates said input optical signal into even-numbered optical channels and odd-numbered optical channels, and wherein said even-numbered optical channels and odd-numbered optical channels propagate along separate paths.

19. The OADM node of claim 18, wherein said even-numbered optical channels are directed to said wavelength-cross-connect.

20. The OADM node of claim 10, wherein said wavelength-cross-connect comprises a first path of said OADM node.

21. The OADM node of claim 20, further comprising a second path, wherein said second path comprises at least one attenuator.

22. The OADM node of claim 21, wherein said de-interleaver directs even-numbered optical channels to said first path and odd-numbered optical channels to said second path.

23. The OADM node of claim 10, further comprising:

an input band filter optically coupled to said de-interleaver and located before said de-interleaver, for separating the input optical signal into bands; and

an output band filter optically coupled to said interleaver and located after said interleaver, for combining the separated bands into a combined output optical signal.

24. The OADM node of claim 23, further comprising:

an output coupler for tapping a portion of the combined output optical signal from the output band filter; and

an optical monitor optically coupled to said output coupler for receiving said portion of the tapped combined output optical signal and measuring the intensity of the tapped optical signal.

25. The OADM node of claim 24, wherein said measured intensity is used to determine an amount to adjust channel power levels.

26. The OADM node of claim 24, wherein said de-interleaver, said wavelength-cross-connect, said add coupler and said interleaver are integrated onto a first planar lightwave circuit and said input band filter, said output band filter, said output coupler and said optical monitor are integrated onto a second planar lightwave circuit.

27. The OADM of claim 23, further comprising a plurality of optical paths, wherein more than one of said optical paths comprises at least one de-

interleaver, at least one wavelength-cross-connect, at least one add coupler and at least one interleaver, and wherein said input band filter separates the input optical signal into bands and directs the separated bands to the plurality of optical paths, and wherein said output band filter combines the separated bands from the plurality of optical paths into a combined output optical signal.

28. An interleaver, comprising:

a means for separating an optical signal into at least two separate optical paths; and

a means for causing a phase shift within at least one of said at least two separate optical paths, said phase shift altering the relative phase between said at least two separate optical paths to produce a desired power splitting ratio for said interleaver;

wherein said means for separating an optical signal and said means for causing a phase shift are integrated onto a planar lightwave circuit.

29. A method of interleaving, comprising:

separating an optical signal into at least two separate optical paths; and

causing a phase shift within at least one of said at least two separate optical paths, said phase shift altering the relative phase between said at least two separate optical paths to produce a desired power splitting ratio of said optical signal.